

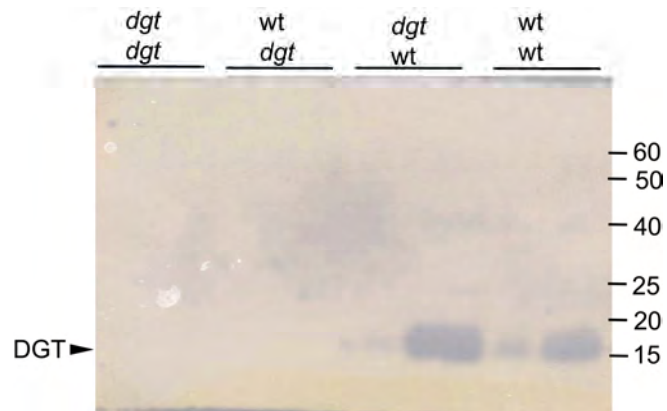
**Supplementary Figure S1. Lack of gravitropic response and asymmetric expression of *IAA2:GUS* auxin reporter expression in *dgt*.** (A) Images of seedlings gravistimulated at 135° for 16 h. (B) Images of roots stained for GUS. Scale bars: (A) 1 cm, (B) 100  $\mu$ m.



**Supplementary Figure S2. Restoration of lateral root formation in *dgt* upon transformation of *DGT:mCherry-DGT* construct.** (A) Image of a transformed seedling. (B) Restoration of root branching correlates with red fluorescence confirming presence of the mCherry-DGT protein. Scale bar: (B) 100  $\mu$ m.



**Supplementary Figure S3. Restoration of lateral root formation in *dgt* upon grafting is not affected by the genetic background.** Root growth in *dgt1-1* (AC background) rootstock was restored upon grafting of *Epi* mutant scion (VFN8 background) and *e* mutant scion (AC background) but not *dgt-dp* (Chatham background).



**Supplementary Figure S4. Western blot of DGT with anti-cyclophilin A antibody with root tips of grafted plants.** The tissue identity in the different combinations is indicated. An arrowhead denotes the position of DGT. No DGT protein was detected in *dgt* rootstock grafted on *dgt* scion or wild type scion.